

SAND AND GRAVEL RESOURCES AND MINED LAND INVENTORY OF CHARLES COUNTY, MARYLAND

By
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Kenneth N. Weaver, Director



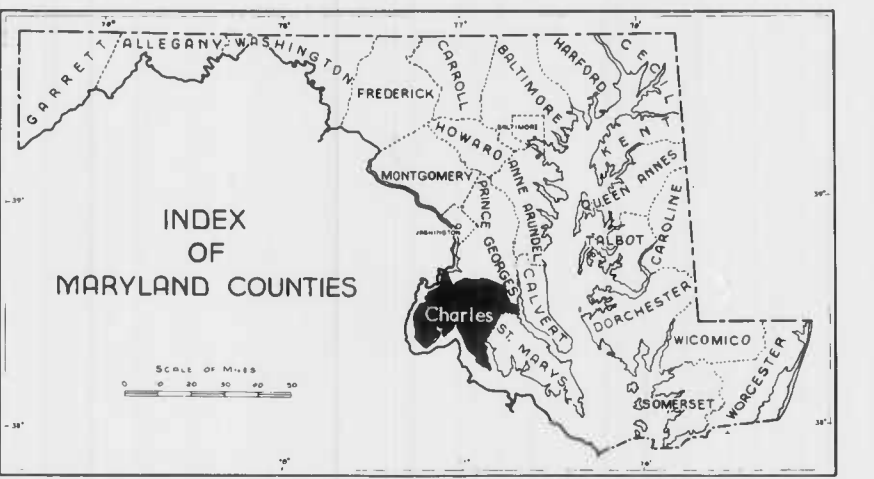
MAP SYMBOLS

- X Sand and Gravel, sand, or borrow pit
- * Former diatomite operation
- Boundary of larger operation
- 7 Active operation, described in text
- Areas of sand and gravel expected to be less than 10' thick
- Areas of potential Upland sand and gravel resources
- Areas of potential Lowland sand and gravel resources

Base Map, Charles County Topographic Map
published by Maryland Geological Survey

Scale 1:62,500
0 1 2 3 4 Miles
0 1 2 3 4 Kilometers

Contour interval 30 feet
Numbered circles indicate the 10,000 foot Maryland State Grid
The last three digits of the grid numbers are written
Datum is mean sea level



Introduction

This map shows past and present mining operations and areas of potential gravel resources in Charles County. Historically, limited quantities of diatomite, greensand and marl have also been produced but are not presently economic. Diatomite was produced intermittently from the Calvert Formation near Popes Creek but production ceased entirely in 1930 with the development of better grade deposits in California. Greensand and marl have been produced at one time or another from the Nemes Formation to satisfy local needs. The Marlboro Clay may be a potential resource for brick clay if the occasion ever demands it.

The sand and gravel deposits are by far the most important mineral resource in Charles County. Approximately 26.2 million tons have been produced between 1956 and 1986. These deposits began to assume importance after about 1978 as urbanization in Anne Arundel and Prince Georges Counties made it increasingly difficult for the sand and gravel industries to develop new deposits in those areas. The industry has grown from 2 operators in 1968 to 12 in 1986. At this time there are 17 active pits, 3 gravel wash plants and 1 asphalt plant. Production from Charles County in 1986 amounted to 1,762,000 tons.

Approximately 1206 acres have been disturbed by mining of which about 46 percent have been reclaimed. Numerous small pits, some not found and some obliterated by time, are not reflected in these figures. The following chart gives a summary of the disturbed land in 1986.

Inactive and Abandoned Acreage	Reclaimed Acreage	Working Acreage	Total Acreage
486	550	176	1212

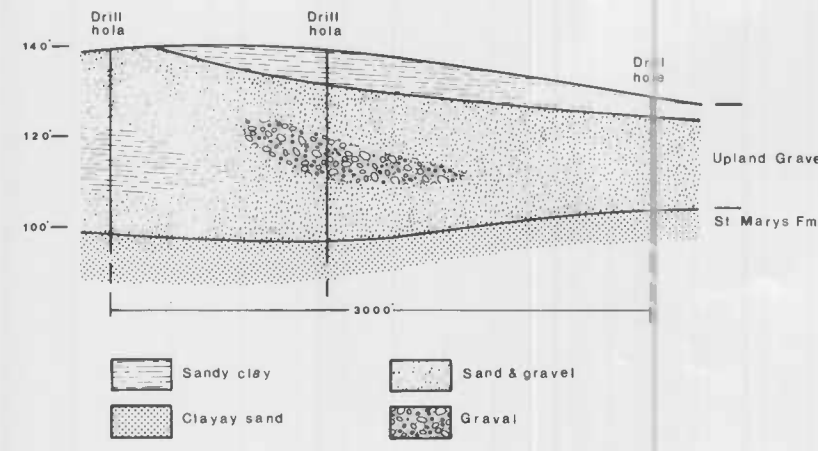
Acreage data were compiled from surface mining permits, field investigations, aerial-photos, and information furnished by various sand and gravel operators.

Upland Deposits

The Upland Deposits consist of those sand and gravel deposits that, in Charles County, lie above the 100 foot elevation. They form a veneer of clastics across the dissected uplands and consist of discontinuous lenses of sand, gravel, sand clay and clay. The sand and gravel is usually capped by a loam member which can be as much as 25 feet thick. These deposits are late Tertiary in age.

During the course of this investigation, 79 exposures and 367 drillers logs of water-wells were examined. Using sand and gravel thickness from these sources an attempt was made to delineate those areas in which the economic sand and gravel deposits are most likely to occur. An arbitrary lower limit was made at 10 feet, and all areas in which the sand and gravel portion of this section is expected to be less than 10 feet thick have been shaded. No attempt was made to consider overburden thickness or quality. The resulting information should be used with great caution because gravel deposits commonly change in thickness over short distances, and in some cases gravels less than 10 feet can be mined. Specific site investigations must be made before any actual reserve estimated or economic projections can be made.

The following cross-section is from a site in St. Mary's County; nevertheless, it serves to illustrate both the lateral and vertical facies changes which can occur over relatively short distances.



The Upland Deposits are sand and gravel in Charles County.

Lowland Deposits

The Lowland Deposits consist of river-bottom sediments and several levels of terraces, all of Quaternary age, flanking the Potomac, Port Tobacco, and Wicomico Rivers. These terraces represent various elevations of the products of the erosion controlled by the sea level at the time of their formation. The sediments which make up the terraces were in part derived from the erosion of the Upland Deposits.

The gravels in the Lowland Deposits tend to be more erratically distributed and of less lateral extent than those in the Upland Deposits. The higher terraces consist mostly of coarse sand. However, one major operator produces excellent gravel from this horizon near Goose Bay.

The Lowland Deposits, because of their erratic gravel distribution and generally smaller areal extent are considered to be a less important resource than the Upland Deposits. The Lowland Deposits indicated on the map consist only of those areas which either through pits or drilling are known to have gravel.

Resource Pre-emption

Other factors not considered here influence the economic viability in certain areas of both the Upland and Lowland gravel deposits, the most important of which is the availability of land for mining. Much potential gravel bearing land, particularly in the Waldorf-Lapata area has been pre-empted for other uses, therefore, actual resources will be less than the map indicates.

ACTIVE OPERATIONS

- Arundel Asphalt Gravel pit
- A & B. Co. Ltd. 82-122
- A & B. Co. Ltd. 86-236
- Buffalo Sand & Gravel Inc.
- Buffalo Sand & Gravel Inc.
- Charles County Sand & Gravel Inc.
- Charles County Sand & Gravel Inc.
- Charles County Sand & Gravel Inc.
- Charles County Sand & Gravel Inc.
- Goose Bay Aggregates
- Goose Bay Aggregates
- Gross, James
- Lewis and Schwigert
- Manley Excavating Co.
- A. H. Smith
- Sonar Paving Corp.
- Sonar Paving Corp.
- Sonar Paving Corp.
- J. H. Wade and Sons
- Willett Construction Co.
- Willett Construction Co.

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